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Summary of INGAA/Regulator Meeting on Gas IMP

September 6 & 7, 2000

Houston, Texas

Purpose

This meeting is one of a series of meetings between OPS and State regulators and the gas pipeline industry on how best to add protection to pipeline segments in high consequence areas (HCAs). The intended outcome of these meetings is a *technical basis document* developed by industry and docketed in support of a rulemaking. This meeting reviewed progress on the technical input being prepared by INGAA.

Attendees

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Meeting Notes

Industry opened the meeting by acknowledging that the INGAA group intends to complete development of insights from the recent accident at Carlsbad and incorporate these into how they plan to address integrity management. HCAs however, are viewed as separate from the Carlsbad accident, since the accident was nominally a low population area.

The purpose of this meeting was to obtain a summary of the results of the various INGAA sub-team activities, to see how the pieces all fit together, to determine whether all the issues have been addressed, and to discuss the role of standards development in the INGAA technical input (including public involvement in the this development).

The INGAA intent is to develop the technical details in support of integrity management through a series of consensus standards. The relationship between these standards, including the timing of their completion, and the likely NPRM is an issue that requires further discussion.

INGAA is committed to developing seven standards in support of integrity management. These include:

- Guidance on management of integrity consistent with an envisioned prescriptive rule,
- Guidance on management of integrity consistent with a company-developed plan,
- Definition of an HCA,
- Guidance on in-line inspection tool selection,
- Guidance on Hydro testing,
- Guidance on application of Direct Assessment technologies,
- Guidance on the assessment of dents and gouges.

Drafts of all but one of these standards are anticipated to be produced by late February. The standard on company-specific integrity management plans will not be available on that time frame.

INGAA is committed to develop direct assessment technologies that are capable of the same level of performance as in-line inspection technologies.

INGAA and OPS discussed several concepts related to an HCA definition.

- An HCA is expected to be defined as an area on a map in which the potential for high consequences of some sort exist should there be a gas line rupture and explosion. Anyone should be able to determine where HCAs are given the definition, without knowing anything about the location or characteristics of gas pipelines. One concept explored was using the same definition as the liquid NPRM with the deletion of navigable waterways and Unusually Sensitive Areas (USAs). The definition could be expanded to include any or all of: population centers, buildings from which people cannot be easily be evacuated, hazards with the potential for amplifying the consequences of a gas pipeline rupture (e.g., gas storage tank, munitions plant), culturally significant areas, sole source facilities that supply critical resources (e.g., power lines, power plants, water systems), or places where people might be expected to gather.

- Given the definition of an HCA, each pipeline company must evaluate whether its pipelines can affect the HCA, and, if so, determine what additional measures are needed to assure the integrity of those pipelines.

Industry next discussed the general areas of application (i.e., material defect, stress corrosion cracking, interior and external corrosion, outside force) of the techniques being proposed by INGAA to enhance pipeline integrity (i.e., hydro-testing, in-line inspection, direct assessment, and other techniques).

Industry stated that the current code contains some measures to deal with material defects. Because of the low cyclic fatigue in gas pipelines, material defects do not get worse with time, so testing at any time during the life of a pipeline (e.g., hydro or other appropriate strength testing) will eliminate the threat from material defects. INGAA will assemble research references to support this conclusion.

INGAA proposes to develop a standard to describe how to prevent failures resulting from stress corrosion cracking (SCC).

The outside force threat requires a standard to describe management practices to address it.

The time frame on which pipelines should be re-assessed will be dealt with at the next meeting.

Next followed a summary of the INGAA survey on the status of pigging. Not all INGAA member companies provided data to this survey, but the results are expected to be representative. About 24% of the reported mileage is easy to pig, 25% can be pigged with medium difficulty, 47% would be very difficult to pig (e.g., valves would need to be replaced as would some segments of pipe), and 4% is considered to be impossible to pig without replacement. Pipeline that is in Class 3 or 4 locations and has already been pigged multiple times is about 3%, pigged

once is about 21%, and 76% has never been pigged. INGAA indicated that the numbers would be slightly higher for the pipelines as a whole.

In an exchange on the subject of pigging, the following points were made:

- The INGAA goal is to develop a high comfort level on pipeline integrity based on a spectrum of demonstrated technologies.
- One company estimated it would need to spend about $400M to make all of its lines piggable.
- The economics of assessment alternatives will dictate which of the available technologies will be applied by each company on its pipelines.
- OPS wants to encourage the development of new technologies, and to promote the use of the best technologies to address each threat.

A meeting with several representatives of AGA and several intrastate transmission pipeline operators resulted in the following general agreement:

- AGA will enlist the support of a contractor to review the literature on the question of the cut-off hoop stress level below which analysis and experience (incidents) would demonstrate that leak rather than rupture will occur.
- AGA will assemble the current practices that go beyond the code to ensure integrity of the pipelines of their members.
- AGA will address the question of which technologies/practices will be used to increase the assurance of integrity in HCAs, and how frequently these technologies/practices should be applied.
- AGA agreed that some integrity management measures should be implemented for all pipe segments within HCAs.

On the second day of the meeting, the primary topics were direct assessment and plans for future meetings.

Industry opened the meeting with the statement that INGAA is committed to demonstrate that direct assessment is as effective an integrity assessment tool in its areas of application as pigging or hydro testing. During this presentation OPS indicated that they will need more information on how direct assessment addresses the following issues:

- Pipeline evaluation through pavement,
- Identification of coating disbondment and holidays,
- How the need to excavate is defined,
- Whether metal loss can be identified, or only coating defects.

INGAA is committed to address the implications of the Carlsbad accident and fold relevant results into their preparation of technical material to be provided to OPS.

The following action items were agreed to:

• Preparation of a clear definition of an HCA	Draft by 9/30
• Document the basis of the baseline and re-assessment intervals	Draft by 9/17
• Direct Assessment Draft Report	Draft 9/30
• Integrity Management Practices (by threat)	Draft by 9/30
• Initial position on IM for low hoop stress pipelines	Draft by next meeting

A schedule for preparation of needed consensus standards will be provided at the next meeting.